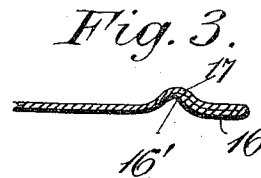
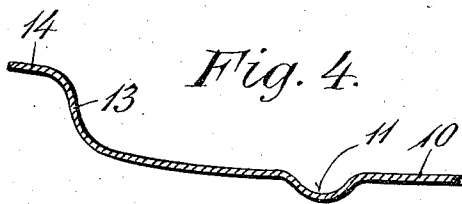
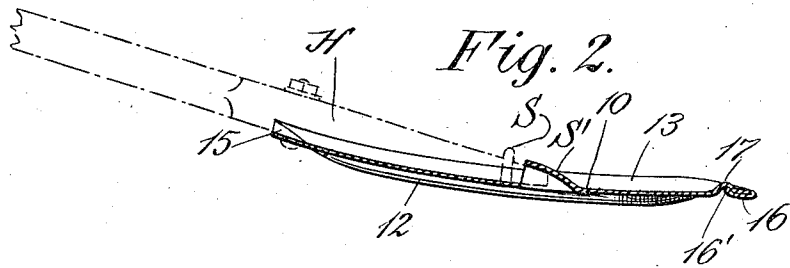
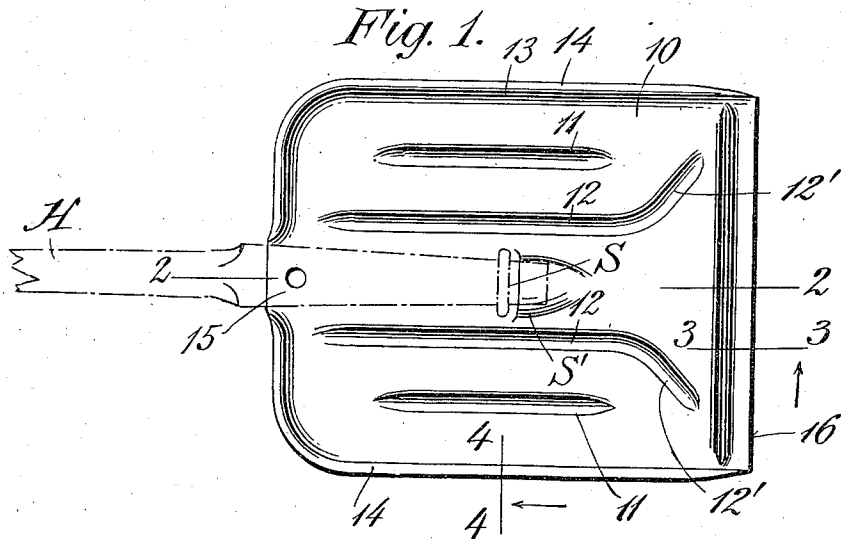


G. F. DANIELSON.
SHOVEL,

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996,621.

Patented July 4, 1911.



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UNITED STATES PATENT OFFICE.

GUSTAVE F. DANIELSON, OF YOUNGSTOWN, OHIO.

SHOVEL.

996,621.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, GUSTAVE F. DANIELSON, a citizen of the United States of America, residing at Youngstown, in the county of Mahoning and State of Ohio, have invented certain new and useful Improvements in Shovels, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to shovels, and has for its object the provision of an article of this nature which will permit its manufacture from light-weight stock and yet will be as strong and long-lived as the ordinary shovel made from stock of nearly twice the thickness. These results are attained by the peculiar "crimping" or "ribbing" of the edges of the shovel blade, in the manner illustrated in the accompanying drawings, in which—

Figure 1 shows a top view of a shovel embodying my improvement; Fig. 2 is a longitudinal section thereof, on line 2—2 of Fig. 1; Fig. 3 represents a section of the front edge on line 3—3 of Fig. 1, on an enlarged scale, and Fig. 4 illustrates a section of one of the side-edges, on line 4—4 of Fig. 1, on an enlarged scale.

Referring to the drawings, the shovel blade 10 is preferably longitudinally arcuate (see Fig. 2) and has a series of depressions 11, 12, in its upper face, thus forming on the underside thereof a series of stiffening members or "ribs" which stiffen the blade against straightening out. The arcuate form of the blade, longitudinally, will of course stiffen, *per se*, the blade against bending laterally, and this stiffness is still further increased by forming the depressions 12 with branches 12' leading toward the front-edge corners of the blade, so that the front-edge portion even if flat or straight will yet be very stiff. Furthermore the side edges of the blade are bent upward from the body, as shown at 13, thus forming an upward longitudinal rib which tends to preserve the longitudinal curvature of the blade, and this edge is again reinforced against cross-strains, (such as the edge would receive when striking a "side-blow") by an outward bend 14 which

extends along both side-edges and the back-edge, but is indented at the latter point to form a notch 15 for the reception of the handle H which may be of any desired form and secured to the blade near the middle thereof by a staple S.

The front edge of the blade is straight and flat so as to scoop-up material readily, and this edge really constitutes the wear-subjected portion of the device. In order to increase its rigidity and, at the same time, increase its resistance to "fraying-out," the metal is doubled upon itself as at 16 and tightly compressed to prevent water from entering the bend and the consequent rusting or corrosion of the metal at that point. While, as above stated, the double thickness of metal naturally stiffens the edge, I deem it of further advantage to form a bead 17 longitudinally and in parallelism with the front edge, thus still more strengthening the edge against "buckling", and the end-edge 16' of the back fold is forced into tight contact with the underside of the bead 17, thus bringing this end-edge above the under level of back-fold and shovel-body, so that, therefore, any liability of fraying will be still further reduced.

In some instances it may be preferable to dispense with the staple S; and at S' is shown a pocket which is stamped-out from the body of the blade and into which the lower end of the handle can be wedged. It is evident that a plain strap similarly punched, but without the pocket feature, will answer the same purpose as far as holding the handle is concerned.

I claim:

A shovel-blade having at its front edge an upwardly extending strengthening bead and having its front edge doubled upon itself, the extreme end-edge resting in close contact with the hollow underside of said bead.

In testimony whereof I affix my signature in presence of two witnesses.

GUSTAVE F. DANIELSON.

Witnesses:

OTTO F. BARTHEL,
ANNA C. RAVILER.